S&H Form: (10/03)

REPLY/AMENDMENT FEE TRANSMITTAL

Attorney Docket No.	1454.1266
Application Number	09/367,778
Filing Date	August 18, 1999
First Named Inventor	Peter LIGGERSMEYER
Group Art Unit	2857

AMOUNT ENCLOSED	0.00	Examiner Name	C. Tsai

FEE CALCULATION (fees effective 10/01/03)

CLAIMS AS AMENDED	Claims Remaining After Amendment	Highest Number Previously Paid For	Number Extra	Rate	Calculations
TOTAL CLAIMS	11	- 20 =	0	X $ 50.00 =	$ 0.00
INDEPENDENT CLAIMS	5	- 5 =	0	X $ 200.00 =	0.00

Since an Official Action set an <u>original</u> due date of <u>January 5, 2005</u>, petition is hereby made for an extension to cover the date this reply is filed for which the requisite fee is enclosed (1 month ($120)); (2 months ($450)); (3 months ($1,020)); (4 months	
If Notice of Appeal is enclosed, add ($500.00)	
If Statutory Disclaimer under Rule 20(d) is enclosed, add fee ($130.00)	
Information Disclosure Statement (Rule 1.17(p)) ($180.00)	
Total of above Calculations =	$ 0.00
Reduction by 50% for filing by small entity (37 CFR 1.9, 1.27 & 1.28)	
TOTAL FEES DUE =	$ 0.00

(1) If entry (1) is less than entry (2), entry (3) is "0".

(2) If entry (2) is less than 20, change entry (2) to "20".

(4) If entry (4) is less than entry (5), entry (6) is "0".

(5) If entry (5) is less than 3, change entry (5) to "3".

METHOD OF PAYMENT

☐ Check enclosed as payment.

☐ Charge "TOTAL FEES DUE" to the Deposit Account No. below.

☒ No payment is enclosed and no charges to the Deposit Account are authorized at this time (unless specifically required to obtain a filing date).

GENERAL AUTHORIZATION

☒ If the above-noted "AMOUNT ENCLOSED" is not correct, the Commissioner is hereby authorized to credit any overpayment or charge any additional fees necessary to:

Deposit Account No.	19-3935
Deposit Account Name	STAAS & HALSEY LLP

☒ The Commissioner is also authorized to credit any overpayments or charge any additional fees required under 37 CFR 1.16 (filing fees) or 37 CFR 1.17 (processing fees) during the prosecution of this application, including any related application(s) claiming benefit hereof pursuant to 35 USC § 120 (e.g., continuations/divisionals/CIPs under 37 CFR 1.53(b) and/or continuations/divisionals/CPAs under 37 CFR 1.53(d)) to maintain pendency hereof or of any such related application.

SUBMITTED BY: STAAS & HALSEY LLP

Typed Name	Richard A. Gollhofer	Reg. No.	31,106
Signature	*Richard A. Gollhofer*	Date	1/5/04

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Peter LIGGERSMEYER

Serial No. 09/367,778   Group Art Unit: 2857

Confirmation No. 4756

Filed: August 18, 1999   Examiner: C. Tsai

For: METHOD FOR COMPUTER-SUPPORTED ERROR ANALYSIS OF SENSORS AND/OR
ACTUATORS IN A TECHNICAL SYSTEM

REQUEST FOR RECONSIDERATION AND EXAMINER INTERVIEW

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Attention: **BOX AF**

Sir:

This is in response to the Office Action mailed October 5, 2004 and having a period for response set to expire on January 5, 2005. In the Office Action, the Examiner noted that claims 1-11 were pending in the application; rejected claims 1-6 and 8-11 under 35 U.S.C. § 102(b) and rejected claim 7 under 35 U.S.C. § 103(a). In rejecting the claims, U.S. Patents 5,161,115 to Teshima et al. and 5,680,322 to Raimi et al. (References A and B, respectively, in the March 18, 2004 Office Action) were cited. The language used in rejecting the claims in items 2-5 on pages 2-4 of the Office Action was identical to the language in the March 18, 2004 Office Action. Since these rejections were rebutted in the Response filed August 18, 2004, the Response to Arguments in item 6 on pages 4-6 of the Office Action is addressed below.

REQUEST FOR EXAMINER INTERVIEW

In the second full paragraph of item 6, it was stated that "[t]he Examiner interprets the claimed language differently from Applicant." However, no clear statement of how the Examiner is interpreting the claimed language has been found. Instead, the sentence following the above-

quoted sentence describes how <u>Teshima et al.</u> is being read as teaching more than what is disclosed therein and as including what is recited in the claims. Therefore, it will be assumed that the Examiner is giving full weight to all of the limitations recited in the claims and the issue is whether the prior art teaches or suggests these limitations. If this assumption is incorrect and the above-quoted sentence is true, the Examiner is respectfully requested to contact the under-signed by telephone to arrange an Examiner Interview prior to issuance of an Advisory Action to provide an explanation of how the claims are being interpreted or to clearly describe how the claims are being interpreted in the Advisory Action, so that the claims can be amended or the Examiner's interpretation can be addressed in an Appeal Brief.

PRIOR ART REJECTIONS

In the last sentence of the second paragraph of item 6, it was stated that <u>Teshima et al.</u> discloses "creating separate sets of achievable states, one of which includes no errors and the other of which includes at least one error so that a different set can be formed "(Office Action, page 4, lines 12-14). In support of this statement, the following portions of <u>Teshima et al.</u> were cited: column 2, lines 51-64; column 6, lines 36-41; column 6, line 57 to column 7, line 4; and column 11, lines 29-40. The cited portion of column 2 is the last paragraph of the Summary of the Invention. Thus, unsurprisingly, the statements therein are of a general nature and use language similar to that found in claim 1 of <u>Teshima et al.</u> The statements in the cited portion of column 2 that appear to be the most relevant to the operations recited in claim 1 of the subject application are "storing the specifications as a finite state machine model including an allowable error "(column 2, lines 55-56), "executing the particular specifications ... according to the finite state machine model including error information" (column 2, lines 59-62) and "verifying the operation of the tested system by checking whether or not the finite state machine is satisfied" (column 2, lines 63-64). It should be clear to even a casual observer that there is no discussion of separate "sets" of data and certainly neither "forming a difference set" (claim 1, line 11) or "determining result conditions from the difference set" (claim 1, line 12), since there is no teaching or suggestion in this portion of <u>Teshima et al.</u> of forming a difference set. The portions of <u>Teshima et al.</u> related to the formation of sets of data were discussed in the August 18, 2004 Response, but the Summary of the Invention of <u>Teshima et al.</u> does not go into the level of detail of other portions of <u>Teshima et al.</u> that were discussed in the August 18, 2004 Response.

The second portion of <u>Teshima et al.</u> cited in the second paragraph of item 6, was column 6, lines 36-41. This portion of <u>Teshima et al.</u> states that "any system which has errors, such as an error of the temperature sensor and an error of operation detection, can be

automatically verified" (column 6, lines 38-41). There is nothing in this statement indicating **how** a system with errors is verified; only an assertion that it is accomplished by the system taught by Teshima et al.

The third portion of Teshima et al. cited in the second paragraph of item 6 (where column 6, lines 57 and 59 have been combined with column 6, line 60 to column 7, line 4) includes a description of the schematic showing state transitions provided in Fig. 10 and the preceding sentence which describes generation of specifications in a format according to the finite state machine model. The example illustrated in Fig. 10 is for a refrigerator in which "combinations of the available functions (including single functions) of the product to be tested are represented with 'states' in the finite state machine model" (column 6, lines 65-68). All available paths are considered in the verification process including paths "composed of normal process operations and abnormal process operations" (column 7, lines 3-4). Therefore, errors or abnormal states are considered in the verification process taught by Teshima et al. However, there is no teaching or suggestion in this portion Teshima et al. of **how** to perform the verification. As discussed in the August 18, 2004 Response, an example of the verification process taught by Teshima et al. is described in columns 9 and 10, but does not include the operations recited in the last three lines of claim 1 of the subject application.

The last portion of Teshima et al. cited in the second paragraph of item 6 is column 11, lines 29-40 in the next to last paragraph of the specification. Like the cited portion of the Summary of the Invention, the cited portion of column 11 contains general statements summarizing the operation of the disclosed system. Included are sentences similar to those quoted above from the other portions of Teshima et al. cited in the Response to Arguments and the statement that "the coverage of each verification item can be quantitatively determined" (column 11, lines 35-36). Once again, there is nothing in this portion of Teshima et al. that teaches or suggests performing the operations recited on the last three lines of claim 1.

The paragraph spanning pages 4 and 5 of the Office Action starts with a statement of the benefit provided by the present invention as described in the August 18, 2004 Response. This is followed by the words from column 6, lines 36-41 (underlined instead of inside quotation marks) that were discussed above as failing to describe the operations recited on the last three lines of claim 1. The Applicant does not dispute that Teshima et al. addresses a problem very similar to that addressed by the present invention and uses a finite state description or model as the form of data on which operations are performed. However, nothing has been cited or found in Teshima et al. that teaches or suggests performing operations on such data that are recited

on the last three lines of claim 1. The bold and underlined words on line 9 of page 5 in the Office Action, i.e., "error of the temperature sensor and an error of operation detection" merely describe **what** is included in the data, not the operations performed by the method on that data. In the next sentence at page 5, lines 10-12 of the Office Action, it was noted that the ability to use the difference set to perform an overall analysis of the system is not recited in the claims. That is why this ability was described in the August 18, 2004 Response as a benefit of the invention. What is recited in the claims is the creation of the difference set and this is not taught or suggested by Teshima et al.

The October 4, 2004 Office Action contains no other support for finding that claims 1-6 and 8-11 are anticipated by Teshima et al. Therefore, for the reasons discussed above and in the August 18, 2004 Response, it is submitted that claims 1-11 patentably distinguish over Teshima et al.

The paragraph spanning pages 5 and 6 of the Office Action addressed the argument in the August 18, 2004 Response that Raimi et al. does not overcome the deficiencies of Teshima et al. set forth above and in the August 18, 2004 Response. However, the Examiner did not dispute that Raimi et al. fails to disclose the operations recited on the last three lines of claim 1. Rather, the paragraph spanning pages 5 and 6 of the Office Action repeated the assertion that these operations are disclosed in Teshima et al. and that Raimi et al. is being relied upon as disclosing that the finite state descriptions are "realized by a finite automat formed as a binary decision diagram" (Office Action, page 5, lines 18-19) which is the limitation recited in claim 7. Regardless of what Raimi et al. teaches that might be relevant to the limitation recited in claim 7, nothing has been cited or found in Raimi et al. regarding the operations recited on the last three lines of claim 1. Therefore, it is submitted that claim 7, as well as claims 1-6 and 8-11, patentably distinguish over the combination of Teshima et al. and Raimi et al. for the reasons discussed above and in the August 18, 2004 Response with respect to the distinctions of claim 1 over Teshima et al. taken alone.

In addition to the distinctions of claims 1 and 8-11 over Teshima et al. discussed above and in the August 18, 2004 Response, nothing has been cited or found in Teshima et al. teaching or suggesting that "failure probabilities are allocated to the sensors and/or actuators ... and ... the error analysis ensues taking the failure probabilities into consideration" (claim 3, lines 1-3). The portions of Teshima et al. cited in rejecting claims 2 and 3 were Fig. 3; column 4, lines 3-9; column 7, lines 42-61; and column 8, lines 34-46. Figure 3 is a graph of temperature versus time with event start time T_{ES} and event and time T_{EE} labeled. The cited portion of column 4

4

provides a description of Fig. 3 which refers to "a possibility that the event could be detected even though the event does not actually occur" (column 4, lines 7-9), but contains no suggestion of allocating a failure probability to the sensor to take such a possibility into account.

The cited portion of column 7 similarly notes that since there could be "an error ± due to the operations of the temperature sensor ... , it is necessary to test the path from the state **1** to state **4** for the three states of the temperature ranges A, B and C shown in Fig. **13**" (column 7, lines 44-48). This is a description of the precision of the temperature sensor and how the state change paths are tested, but does not suggest allocating failure probabilities to the sensor. The cited portion of column 8 contains a description of the test coverage degree measurement section 128 illustrated in Fig. 9 which "measures whether or not and the number of times the normal process operation and the abnormal process operation occur" (column 8, lines 36-38), "determines the number of possible cases" (column 8, lines 42-43) and thereby measures "how many verification items of the tested system 200 have been executed" (column 8, lines 45-46). Once again, there is no teaching or suggestion of allocating failure **probabilities** and therefore, it is submitted that claim 3 further patentably distinguishes over Teshima et al.

For the reasons set forth above, it is submitted that the cited references, taken alone or in combination, do not teach or suggest the features of the present claimed invention. Thus, it is submitted that claims 1-11 are in a condition suitable for allowance. Reconsideration of the claims and an early Notice of Allowance are earnestly solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Request for Reconsideration, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

Date: 1/5/05

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